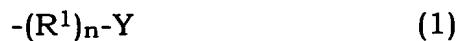


CLAIMS

1. A method of forming a thin film of vinylidene fluoride homopolymer comprising I-form crystal structure alone or as main component, the method comprises applying, on a substrate, a vinylidene fluoride homopolymer which contains, at one end or both ends thereof, a moiety represented by the formula (1):



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wherein R^1 is a divalent organic group but does not contain a structural unit of the vinylidene fluoride homopolymer; n is 0 or 1; Y is a functional group, and has a number average degree of polymerization of vinylidene fluoride homopolymer unit of 3 to 100, to form a thin film 15 of the vinylidene fluoride homopolymer comprising I-form crystal structure alone or as main component.

2. The method of forming a thin film of Claim 1, wherein in the vinylidene fluoride homopolymers comprising I-form crystal 20 structure alone or as main component, when attention is given to proportions of the respective vinylidene fluoride homopolymers having I-, II- or III-form crystal structure in the thin film of vinylidene fluoride homopolymer which are calculated by IR analysis, the proportion of vinylidene fluoride homopolymers having I-form crystal structure 25 satisfies both of (Equation 1):

$$100 \geq I\text{-form} / (I\text{-form} + II\text{-form}) > 50 \% \text{ by weight} \quad (\text{Equation 1})$$

and (Equation 2):

$$100 \geq I\text{-form}/(I\text{-form} + III\text{-form}) > 50 \% \text{ by weight} \quad (\text{Equation 2}).$$

5 3. The method of forming a thin film of Claim 1 or 2, wherein Y in the formula (1) is a functional group which can impart, to the vinylidene fluoride homopolymer, adhesion to the substrate of organic material and/or inorganic material.

10 4. The method of forming a thin film of Claim 1 or 2, wherein Y in the formula (1) is a functional group which can make self-organization of vinylidene fluoride homopolymer possible on the surface of the substrate of organic material and/or inorganic material.

15 5. The method of forming a thin film of Claim 1 or 2, wherein Y in the formula (1) is a functional group which can bond vinylidene fluoride homopolymers each other.

20 6. The method of forming a thin film of Claim 4, wherein Y in the formula (1) is -CH=CH₂, -SH and/or -SiX_{3-n}R⁶n (n is 0 or an integer of 1 or 2; R⁶ is CH₃ or C₂H₅; X is -OR⁷, -COOH, -COOR⁷, -NH_{3-m}R⁷m, -OCN or halogen atom (R⁷ is CH₃, C₂H₅ or C₃H₇, m is 0 or an integer of 1 to 3)).

25 7. The method of forming a thin film of Claim 5, wherein Y in the formula (1) is -CH=CH₂, -OCOCH=CH₂, -OCOCF=CH₂, -OCOC(CH₃)=CH₂ or -OCOCCl=CH₂.

8. A laminated article which has, on a substrate, a self-organized thin film formed by using vinylidene fluoride homopolymers comprising I-form crystal structure alone or as main component and having a number average degree of polymerization of
5 vinylidene fluoride homopolymer unit of 3 to 100.

9. A laminated article which has, on a substrate, a thin film formed by bonding of vinylidene fluoride homopolymers comprising I-form crystal structure alone or as main component and having a
10 number average degree of polymerization of vinylidene fluoride homopolymer unit of 3 to 100.

10. The laminated article of Claim 8 or 9, wherein in the vinylidene fluoride homopolymers comprising I-form crystal structure
15 alone or as main component, when attention is given to proportions of the respective vinylidene fluoride homopolymers having I-, II- or III-form crystal structure in the thin film of vinylidene fluoride homopolymer which are calculated by IR analysis, the proportion of vinylidene fluoride homopolymers having I-form crystal structure
20 satisfies both of (Equation 1):

$$100 \geq \text{I-form}/(\text{I-form} + \text{II-form}) > 50 \% \text{ by weight} \quad (\text{Equation 1})$$

and (Equation 2):

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$$100 \geq \text{I-form}/(\text{I-form} + \text{III-form}) > 50 \% \text{ by weight} \quad (\text{Equation 2}).$$

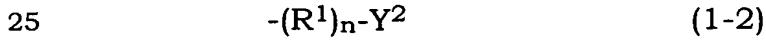
11. The laminated article of Claim 8, wherein the self-organized film formed by using the vinylidene fluoride homopolymers comprising I-form crystal structure alone or as main component is formed by using vinylidene fluoride homopolymers
5 having a number average degree of polymerization of vinylidene fluoride homopolymer unit of 3 to 100 and containing, at one end or both ends thereof, a moiety represented by the formula (1-1):



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wherein R^1 is a divalent organic group but does not contain a structural unit of the vinylidene fluoride homopolymer; n is 0 or 1; Y^1 is $-SH$ and/or $-SiX_{3-n}R^6_n$ (n is 0 or an integer of 1 or 2; R^6 is CH_3 or C_2H_5 ; X is $-OR^7$, $-COOH$, $-COOR^7$, $-NH_{3-m}R^7_m$, $-OCN$ or halogen atom
15 (R^7 is CH_3 , C_2H_5 or C_3H_7 , m is 0 or an integer of 1 to 3)).

12. The laminated article of Claim 9, wherein the thin film formed by bonding of the vinylidene fluoride homopolymers comprising I-form crystal structure alone or as main component is formed by
20 using vinylidene fluoride homopolymers having a number average degree of polymerization of vinylidene fluoride homopolymer unit of 3 to 100 and containing, at one end or both ends thereof, a moiety represented by the formula (1-2):



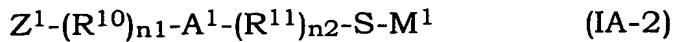
wherein R^1 is a divalent organic group but does not contain a

structural unit of the vinylidene fluoride homopolymer; n is 0 or 1; Y² is -CH=CH₂, -OCOCH=CH₂, -OCOCF=CH₂, -OCOC(CH₃)=CH₂ or -OCOCCl=CH₂.

5 13. A ferroelectric device comprising the laminated article of any of Claims 8 to 12.

14. A vinylidene fluoride homopolymer represented by the formula (IA-2):

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wherein A¹ is a structural unit of vinylidene fluoride homopolymers having a number average degree of polymerization of 3 to 100; Z¹ is a polyfluoroalkyl group or an alkyl group; R¹⁰ and R¹¹ are the same or different and each is a divalent organic group but does not contain a vinylidene fluoride homopolymer unit comprising I-form crystal structure alone or as main component; n1 and n2 are the same or different and each is 0 or 1; M¹ is hydrogen atom or alkali metal atom.

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15. A vinylidene fluoride homopolymer represented by the formula (IB-3):



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wherein A² and A³ are the same or different and each is a structural unit of vinylidene fluoride homopolymers and a total number average

degree of polymerization of A^2 and A^3 is from 3 to 100; R^2 is a divalent organic group but does not contain a structural unit of the vinylidene fluoride homopolymer; R^{12} and R^{13} are the same or different and each is a divalent organic group but does not contain a structural unit of
5 the vinylidene fluoride homopolymer; n_3 and n_4 are the same or different and each is 0 or 1; M^2 and M^3 are the same or different and each is hydrogen atom or alkali metal atom.